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[11403/12]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	:
	: Examiner: Thu V. Nguyen
Mark Klausner et al.	:
For: AUTONOMOUS IN VEHICLE NAVIGATION SYSTEM AND DIAGNOSTIC SYSTEM	:
Filed: December 13, 2001	: Art Unit: 3661
Serial No.: 10/017,093	

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Mail Stop APPEAL BRIEF - PATENT
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
on
Date: 12/13/2004
Signature:
AARON C. DEDITCH (33,865)

MAIL STOP APPEAL BRIEF - PATENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF TRANSMITTAL
AND PETITION TO EXTEND

SIR:

Accompanying this Appeal Brief Transmittal is an Appeal Brief pursuant to 37 C.F.R. § 1.192(a) **in triplicate** for filing in the above-identified patent application.

This is also a **Petition to Extend** Under 37 C.F.R. § 1.136(a) to extend the two-month response date by **one (1) month** from the two-month date of November 13, 2004 to December 13, 2004 (the Notice of Appeal was mailed on September 10, 2004 and filed in the Patent Office on September 13, 2004, which makes the two-month date of November 13, 2004).

Please charge the appropriate fees of **$620.00**, which includes the Appeal Brief fee of under 37 C.F.R. § 1.17(c) (which is believed tobe $500.00) and the Rule 136(a) extension fee (which is believed to be **$120.00** for one-month extension), to Deposit Account No. **11-0600**. The Commissioner is also authorized, as necessary and/or appropriate, to charge any additional and appropriate fees or credit any overpayment to Deposit Account No. **11-0600**. Two duplicate copies of this transmittal are enclosed for that purpose.

Dated: 12/13/2004

Respectfully submitted,

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Date: 12/13/2004

Signature:

AARON C. DEDITCH
(33,865)

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 1.192(a)

SIR:

In the above-identified patent application ("the present application"), Appellants mailed a Notice Of Appeal on September 10, 2004 (which was filed by the Patent Office on September 13, 2004) from the Final Office Action mailed by the U.S. Patent and Trademark Office on June 15, 2004, so that the two-month appeal brief filing date is November 13, 2004, which has been extended by one month to December 13, 2004 by the accompanying Appeal Brief Transmittal and Petition to Extend. In the Final Office Action, claims 20 to 26 and 29 to 39 were finally rejected.

An Amendment After A Final Office Action was mailed on July 29, 2004. An Advisory Action was mailed on August 17, 2004.

In accordance with 37 C.F.R. § 1.192(a), this Appeal Brief is being submitted in triplicate in support of the appeal of the final rejections of claims 20 to 26 and 29 to 39. It is respectfully submitted that the final rejections of claims 20 to 26 and 29 to 39 should be reversed for the reasons set forth below.

1. REAL PARTY IN INTEREST

The real party in interest in the present appeal is Robert Bosch GmbH ("Robert Bosch") of Stuttgart in the Federal Republic of Germany. Robert Bosch is the assignee of the entire right, title and interest in the present application.

2. RELATED APPEALS AND INTERFERENCES

There are no interferences or other appeals related to the present application, which "will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal".

3. STATUS OF CLAIMS

1. Claims 20 to 26 and 29 to 39 were rejected under 35 U.S.C. § 103(a) as unpatentable over Van Bosch, U.S. Patent No. 6,493,629 (the "Van Bosch" reference) in view of Hanson et al., U.S. Patent Application Publication. No. 2002/0156558 (the "Hanson" reference).

A copy of the appealed claims (which excludes the withdrawn claims) is attached hereto in the Appendix.

4. STATUS OF AMENDMENTS

In response to the Final Office Action mailed on June 15, 2004, Appellants filed an Amendment After A Final Office Action ("the Response After Final"), which was mailed on July 29, 2004.

5. SUMMARY OF THE INVENTION

The subject matter of the present application is directed to addressing the following problems and/or providing the following benefits.

As stated in the present application, access to in-vehicle electronics may require special hardware that is connected directly to the vehicle bus through some physical connection. Certain built-in in-car navigation systems may use vehicle data such as wheel speed and steering angle to extrapolate from a former navigation solution. In the case of a

satellite-based positioning system, for instance GPS (Global Positioning System), if there is no GPS signal available, the current navigation solution is approximated by using the vehicle data to extrapolate from the last-received (or former) GPS position. Internal vehicle data increases both precision and coverage of the navigation solution. Diagnostics systems use vehicle data obtained from a vehicle bus to assist an automotive technician in diagnosing and repairing vehicle systems. (Specification, page 1, lines 9 to 18).

There are problems with the current method of accessing in-vehicle electronic information for the purpose of improving a navigation solution or for the purpose of vehicle diagnostics. One problem is the cost of creating a hardwire connection from the vehicle bus to a navigation system or a handheld computer. For the navigation system, this cost is due in part to the fact that navigation systems may be installed in the aftermarket. For the vehicle diagnostics, this cost is due in part to the fact that diagnostic systems may be a custom job, requiring a relatively large amount of time. (Specification, page 1, line 19 to page 2, line 6).

Another problem is the flexibility provided by the vehicle bus connection. With the connector attached to the vehicle, the operator may be forced to use a specific navigation system, or a specific diagnostics computer, which the connector is designed to accommodate. A vehicle operator might want to use the navigation system (or vehicle diagnostics computer) outside the vehicle, and therefore the connection must be disconnectable. Additionally, the vehicle operator might want to upgrade or change the navigation system (or vehicle diagnostics computer) for the vehicle, possibly requiring a new connection to the vehicle bus, or a specialized adapter for the old bus connector. The uncertainty and non-uniformity in the connections to the vehicle bus may have a substantial effect on the cost of both in-vehicle navigation systems and vehicle diagnostics systems, and may therefore have a profoundly negative effect on the use of in-vehicle navigation systems and vehicle diagnostics systems. (Specification, page 2, lines 9 to 20).

The exemplary embodiment of the present invention accesses a vehicle bus either for sensor data concerning vehicle motion for a navigation system, or for system health data for a vehicle diagnostic computer. By accessing vehicle data from a vehicle bus without the requirement of a physical connection, the exemplary system, method, and device of the present invention are intended to eliminate or reduce the above-mentioned problems and enable a navigation system to take advantage of vehicle sensor values to improve a position

solution for the vehicle, and to enable diagnostics information from the vehicle bus to be accessed at a remote terminal, thereby allowing the user to display and analyze vehicle diagnostics on a handheld computer or other appropriate unit. (Specification, page 3, lines 13 to 21).

The exemplary system for navigating a vehicle includes a vehicle sensor connected to a vehicle bus connected to a gateway node, and a processor in the vehicle communicating wirelessly with the gateway node and connected to a vehicle positioning system. The sensor measures a value and then transmits the value over the vehicle bus to the gateway node using a network protocol. The gateway node then wirelessly transmits the value to the processor using a wireless communication protocol. The processor receives an initial position from the positioning device and calculates a current position using a former position, the initial position, and the sensor value. A protocol translation device is disclosed that may include two different protocols and an intermediate, network-independent protocol. (Specification, page 3, line 22 to page 4, line 6).

According to an exemplary embodiment of the present invention, a protocol translation can occur from the Controller Area Network (CAN) protocol to a Bluetooth protocol in a gateway node electrically coupled to the vehicle bus. The signal can then be transmitted in the Bluetooth protocol from the gateway node to an external receiver via a wireless link. Such an interface would enable external devices, such as a stand-alone navigation system or a handheld computer running navigation software and connected to a navigation system, to subscribe to certain signals on the vehicle bus, or to interrogate a vehicle's electronic control units (ECUs), without interfering with the vehicle's operation. (Specification, page 4, lines 14 to 21).

An exemplary system for monitoring an apparatus in a vehicle includes a sensor for sensing an error code of the apparatus, a gateway node electrically coupled to the vehicle bus, and a processor. The processor may be situated within the vehicle, in proximity to the vehicle, or in long range wireless contact (e.g., by a cellphone connection) with the short range wireless hardware. The sensor, either in response to an interrogatory from a diagnostics software or on its own initiative, communicates the error code to the gateway node via the vehicle bus using a network protocol. The gateway node communicates the error code to the processor using a wireless communication protocol. The processor either displays the error

code, uses a look-up table to analyze the error code, or stores the error code for retrieval at a later time. (Specification, page 4, line 22 to page 5, line 7).

Figure 1 shows a block diagram of a specific CAN-to-Bluetooth embodiment of the present invention. Any wireless communication system, however, could be used to connect the vehicle sensor to the processor. Figure 1 shows a sensor 11 electrically coupled to a vehicle bus 12. In one embodiment, the sensor data is used to assist in positioning the vehicle, and therefore any variable, both measured and observed (e.g. derived from other measured signals, using models), showing direction, change of direction, speed, acceleration, or deceleration, would be useful in the positioning calculation. Sensor 11 may therefore be a wheel speed sensor, a velocity sensor, a yaw rate sensor, a steering angle sensor, a body-slip angle sensor, an attitude sensor, an inertial sensor, or any other sensor for data concerning the status of a vehicle. (Specification, page 6, lines 1 to 11).

The vehicle bus 12 operates in one exemplary embodiment under a CAN (Controller Area Network) protocol. Vehicle bus 12 may be any one of several vehicle bus systems present in the vehicle, and is electrically coupled to gateway node 15. Gateway node 15, including controller 13 and Bluetooth hardware 14, is situated in the vehicle. Vehicle bus 12 couples directly to controller 13, which is electrically coupled to Bluetooth hardware 14. The controller 13 controls the communication between the vehicle bus 12 and the Bluetooth hardware 14. (Specification, page 6, lines 12 to 21).

Bluetooth hardware 14 communicates wirelessly with remote Bluetooth hardware 16, which is electrically coupled with processor 17. Processor 17 is electrically coupled to positioning device 18. Any of remote Bluetooth hardware 16, processor 17, and positioning device 18 may be integrated in one unit, or each may be a separate unit. Positioning device 18 may be a handheld computer running navigation software. Positioning device 18 may use any number of positioning methods to determine the current position and to monitor progress along the selected route. These positioning systems may include GPS, DGPS (Differential GPS), AGPS (Assisted GPS), triangulation, hyperbolic intersection of time-delay solutions, and cell identification to position the user. (Specification, page 6, line 22 to page 7, line 6).

Processor 17 may include a memory (not shown) used to store a former position, and may use a current position from positioning device 18 along with a former position and a sensor datum or sensor data to calculate a corrected current position. This calculation may be

important for providing reliable positioning information in an area of low-satellite coverage or no-satellite coverage (e.g. tunnels, parking garages, downtown areas), where the positioning device is a satellite-based positioning system. In areas with low- or no-satellite coverage, the quality of the current position output by the positioning device is reduced. Similarly, multipath problems may reduce the quality of either a satellite (e.g. GPS) positioning system or a cellphone-based system. By using sensor data to determine the movement of the vehicle with respect to the former position, an improved position solution is possible. (Specification, page 7, lines 7 to 17).

In the exemplary method according to the present invention, a signal from a sensor is provided to the vehicle bus by any one of four wheel speed sensors, a steering angle sensor, a velocity sensor, a yaw rate sensor, a body-slip angle sensor, an attitude sensor, an inertial sensor, or any other sensor. A controller connected to the vehicle bus, for instance a CAN controller in the situation where the vehicle bus is operated as a Controller Area Network, reads the sensor data from the vehicle bus and communicates the data to a short-range wireless transmitter, for instance a Bluetooth hardware set. The sensor data is transmitted wirelessly to another wireless transmitter that is incorporated in a component based mobile navigation system (CBMNS). The sensor data is then available at the processor that is running a navigation software. The navigation system is therefore able to use the vehicle motion sensor data to extrapolate from the former position stored in a memory. The extrapolated position can then be compared to current position data. The extrapolated position can then be averaged with the current position to solve for a corrected current position. Additionally, this averaging can be variably weighted depending on the quality of the current position data. For instance, the current position data may be heavily weighted when the quality of the current positioning data is high due to good or excellent satellite coverage. Alternatively, the extrapolated position may be more heavily weighted in the averaging process when the quality of the current positioning data is low, for instance when there is no- or low-satellite coverage.(Specification, page 7, line 18 to page 8, line 12).

In another exemplary embodiment, the sensor data is used in a diagnostic procedure to evaluate the vehicle systems. Sensor 11 may therefore also be any type of sensor evaluating another vehicle system or, alternatively, any system with self-diagnosing capabilities (i.e. any system capable of evaluating its own status). The data transmitted by sensor 11 in this

exemplary embodiment would therefore be either an error or fault code, a health status, or an "all OK" signal. The error or fault code may be extracted from a look-up table by the sensor during the diagnostic procedure. Sensor 11 may transmit its status, in the form or any of the error or fault code, the health status, or the "all OK" signal, in response to an interrogatory from the diagnostic system communicated to the sensor 11 on the vehicle bus. Alternatively, sensor 11 may transmit its status on its own initiative, either upon sensing a fault, at a preset time, after a preset time interval, or upon commencing or completing a procedure (e.g. start-up).(Specification, page 8, lines 13 to 23).

The status of sensor 11 might be communicated to the vehicle bus 12, where the controller 13 could read the status off the bus and communicate it to Bluetooth hardware 14 (or any other appropriate short-range wireless transmitter). Bluetooth hardware 14 might transmit the status code to remote Bluetooth hardware set 16 (or another short-range wireless transmitter). Remote Bluetooth hardware set might communicate the status code to processor 17, which might be a handheld computer running a diagnostic program. Remote Bluetooth hardware set 16 may be incorporated with processor 17 in one integrated unit, or the two units may be separate but electrically coupled.(Specification, page 9, lines 1 to 8).

Processor 17 may be running a diagnostics program and the look-up table might be reproduced in processor 17, so that after receiving the error code, processor 17 would provide an error message to a user (not shown) indicating the sensor or system problem. Alternatively in this embodiment, a health status may be transmitted by sensor 11. The health status might indicate any of a healthy state, an unhealthy state, or a percentage or variably healthy state. Further in this embodiment, the sensor 11 may transmit simply an "all OK" signal. In the event a signal other than an "all OK" is transmitted, the processor may also communicate to a user a suggested course of conduct (e.g. "see a technician").(Specification, page 9, lines 9 to 16).

Remote Bluetooth hardware 16 and processor 17 may be permanently positioned in the vehicle, may be portable and therefore removable from the vehicle, or may be permanently positioned outside the vehicle. Some examples of situations where remote Bluetooth hardware 16 and processor 17 are permanently positioned outside the vehicle include being positioned for use in close proximity to the vehicle, such as in a service garage or home garage. In another exemplary embodiment, remote Bluetooth hardware 16 may be

positioned within or close to the vehicle, and may be electrically coupled to a long range wireless transmitter (e.g. a cellphone, not shown). The cellphone connected to the Bluetooth hardware 16 may wirelessly communicate with processor 17 by any of various known methods, thereby providing remote diagnostic capabilities at any distance from the vehicle.(Specification, page 9, line 17 to page 10, line 2).

Figure 2 illustrates a flowchart for the exemplary decision process of an exemplary diagnostic device according to the present invention starting in circle 21. The device determines if there has been an interrogatory from the diagnostic computer regarding status of the device in decision diamond 22. If the answer is "yes," the flow is to decision diamond 23, while if the answer is "no," the flow is to decision diamond 24. Decision diamond 23 asks whether there is an error code. If the answer is "no," the flow is to box 25, while if the answer is "yes," the flow is to box 26. Box 25 indicates an "all OK" signal is transmitted to the diagnostic computer. Box 26 indicates an error signal is transmitted to the diagnostic computer. Decision diamond 24 asks whether there is an error code. If the answer is "yes," the flow is to box 26, while if the answer is "no," the flow is to box 27. Box 26, as noted above, indicates an error signal is transmitted to the diagnostic computer. Box 27 indicates that no action is taken. (Specification, page 10, lines 3 to 13).

The present invention is therefore directed to a system for monitoring at least one apparatus in a vehicle, including: at least one sensor situated in the vehicle for sensing at least one error code of the at least one apparatus, the at least one sensor being electrically coupled to a vehicle bus; a gateway node situated in the vehicle, the gateway node being electrically coupled to the vehicle bus, the at least one sensor for communicating the at least one error code to the gateway node via the vehicle bus using a network protocol, the gateway node including a controller arrangement and a first wireless protocol arrangement, the first wireless protocol arrangement being coupled to the controller arrangement; and a processor, the gateway node communicating the at least one error code to the processor via a second wireless protocol arrangement that communicates with the first wireless protocol arrangement, using a wireless communication protocol, in which at least one error code concerns diagnostics information and is accessible from the vehicle bus. (See claim 20).

The present invention is also therefore directed to a method for monitoring at least one apparatus in a vehicle, the method including: sensing, with at least one sensor situated in the

vehicle, at least one error code of the at least one apparatus, wherein the at least one sensor is electrically coupled to a vehicle bus that is also electrically coupled to a gateway node situated in the vehicle, communicating, with the at least one sensor, the at least one error code to the gateway node via the vehicle bus using a network protocol, wherein the gateway node includes a controller arrangement and a first wireless protocol arrangement, and the first wireless protocol arrangement is coupled to the controller arrangement; and communicating, from the gateway node to a processor, the at least one error code to the processor via a second wireless protocol arrangement that communicates with the first wireless protocol arrangement, using a wireless communication protocol, in which the at least one error code includes diagnostics information and is accessible from the vehicle bus. (See claim 33).

6. ISSUE

1. Under 35 U.S.C. § 103(a), are claims 20 to 26 and 29 to 39 patentable over Van Bosch, U.S. Patent No. 6,493,629 (the "Van Bosch" reference) in view of Hanson et al., U.S. Patent Application Publication. No. 2002/0156558 (the "Hanson" reference)?

7. GROUPING OF CLAIMS

Issue 1

Group 1: Claims 20 to 26 and 29 to 39 stand or fall together.

8. ARGUMENT

Claims 20 to 26 and 29 to 39 are currently pending and being considered (since claims 1 to 19 were withdrawn from consideration since they were restricted).

ISSUE 1

Claims 20 to 26 and 29 to 39 were rejected under 35 U.S.C. § 103(a) as unpatentable over Van Bosch, U.S. Patent No. 6,493,629 (the "Van Bosch" reference) in view of Hanson et al., U.S. Patent Application Publication. No. 2002/0156558 (the "Hanson" reference).

Group 1 - Claims 20 to 26 and 29 to 39

It is respectfully submitted that the combination of the references does not render

obvious the subject matter of claims 20 to 26 and 29 to 39.

The Office Action admits that the "Van Bosch" reference does not disclose a sensor for transmitting error code that concerns diagnostic information, nor a sensor that is coupled to the controller by a vehicle bus. (Office Action; page 2, ll. 2-4). The Office Action conclusorily asserts that these features are taught by the "Hanson" and "Lang" references. The combination of the references, even including the "Hanson" reference (which may not be prior art) does not render obvious the subject matter of claim 20.

Claim 20 is directed to a system for monitoring at least one apparatus in a vehicle including: at least one sensor situated in the vehicle for sensing at least one error code of the at least one apparatus, the at least one sensor being electrically coupled to a vehicle bus; a gateway node situated in the vehicle, *the gateway node being electrically coupled to the vehicle bus, the at least one sensor for communicating the at least one error code to the gateway node via the vehicle bus using a network protocol,* the gateway node including a controller arrangement and a first wireless protocol arrangement, the first wireless protocol arrangement being coupled to the controller arrangement; and a processor, the gateway node communicating the at least one error code to the processor via a second wireless protocol arrangement that communicates with the first wireless protocol arrangement, using a wireless communication protocol, *in which the at least one error code concerns diagnostics information and is accessible from the vehicle bus.*

As explained in the present application, this system provides the benefit of providing for a remote diagnostics system that obtains information from the vehicle bus:

> In another embodiment, the sensor data is used in a diagnostic procedure to evaluate the vehicle systems. Sensor 11 may therefore also be any type of sensor evaluating another vehicle system or, alternatively, any system with self-diagnosing capabilities (i.e. any system capable of evaluating its own status). . . .
>
> The status of sensor 11 might be communicated to the vehicle bus 12, where the controller 13 could read the status off the bus and communicate it to Bluetooth hardware 14 (or any other appropriate short-range wireless transmitter). Bluetooth hardware 14 might transmit the status code to remote Bluetooth hardware set 16 (or another short-range wireless transmitter). Remote Bluetooth hardware set might communicate the status code to processor 17, which might be a handheld computer running a diagnostic program. . . .

(Specification, pages 8 and 9).

The "Van Bosch" reference does not disclose or suggest, in the context of the claimed subject matter of claim 20, a gateway node to which the at least one sensor communicates at least one error code via the vehicle bus using a network protocol. The Office Action apparently relies on all three references, the "Van Bosch", the "Hanson", and the "Lang" references in asserting that the combination of the references renders the subject matter of this claim obvious. (Office Action; page 2, ll. 8-12). However, the Office Action identifies various discrete elements of claim 20 and suggests their combination without providing a motivation for the combination. Additionally, none of the references discloses a gateway node that is electrically coupled to a vehicle bus in which a sensor communicates an error code to the gateway node via the vehicle bus. It is therefore respectfully requested that the obviousness rejection of claim 20 be withdrawn, since claim 20 is allowable, as are its dependent claims 21 to 26 and 29 to 32.

Claim 33 includes features like those of claim 20 and is therefore allowable for essentially the same reasons as claim 20. Claims 34 to 39 depend from claim 33, and are therefore allowable for the same reasons as claim 33.

In summary, it is respectfully submitted that claims 20 to 26 and 29 to 39 are allowable.

As further regards all of the obviousness rejections discussed herein, in rejecting a claim under 35 U.S.C. § 103(a), the *Office* bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Thus, to reject a claim as obvious under 35 U.S.C. § 103, the prior art must disclose or suggest each claim element and it must also suggest combining the features in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)).

Moreover, the "problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem."

(See Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1998)). It is respectfully submitted that, as discussed above, the references relied on, whether taken alone or combined, do not suggest in any way modifying or combining the references so as to provide the presently claimed subject matter for addressing the problems and/or providing the benefits discussed herein and in the specification, as explained above.

The cases of In re Fine, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), also make plain that the Final Office Action's assertions that it would have been obvious to modify the reference relied upon does not properly support a § 103 rejection. It is respectfully suggested that those cases make plain that the Final Office Action reflects a subjective "obvious to try" standard, and therefore does not reflect the proper evidence to support an obviousness rejection based on the references relied upon. In particular, the Court in the case of In re Fine stated that:

> Instead, the Examiner relies on hindsight in reaching his obviousness determination. . . . **One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.**

In re Fine, 5 U.S.P.Q.2d at 1600 (citations omitted; emphasis added). Likewise, the Court in the case of In re Jones stated that:

> Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. . . .
>
> **Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to make the modifications . . . necessary to arrive at the claimed [invention].**

In re Jones, 21 U.S.P.Q.2d at 1943 & 1944 (citations omitted; italics in original).

That is exactly the case here since it is believed and respectfully submitted that the Office Action reflects hindsight, reconstruction and speculation, which these cases have

indicated does not constitute evidence that will support a proper obviousness finding.

More recently, the Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a "technologically simple concept" -- which is not even the case here, there still must be some finding as to the "specific understanding or principle within the knowledge of a skilled artisan" that would motivate a person having no knowledge of the claimed subject matter to "make the combination in the manner claimed", stating that:

> In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. *With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed.* In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper *prima facie* case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

(See In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Federal Circuit 2000) (italics added)). Here again, it is believed that there have been no such findings to establish that the features discussed above of the rejected claims are met by the reference relied upon. As referred to above, any review of the reference relied upon makes plain that it simply does not describe the features discussed above of the claims as now presented.

More recent still, in the case of *In re Lee*, 61 U.S.P.Q.2d 1430, 1433-35 (Fed. Cir. 2002), the Court reversed the Board of Appeals for relying on conclusory statements, stating the following:

> *With respect to Lee's application, neither the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different*

> *device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine.* ***This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority.*** It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." Thus the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion.
>
> . . . .
>
> *In its decision on Lee's patent application, the Board rejected the need for "any specific hint or suggestion in a particular reference" to support the combination of the Nortrup and Thunderchopper references.* ***Omission of a relevant factor required by precedent is both legal error and arbitrary agency action.***
>
> ***[The] "common knowledge and common sense" on which the Board relied in rejecting Lee's application are not the specialized knowledge and expertise contemplated by the Administrative Procedure Act. Conclusory statements such as those here provided do not fulfill the agency's obligation.*** [The] Board's findings must extend to all material facts and must be documented on the record, lest the "haze of so-called expertise" acquire insulation from accountability. "Common knowledge and common sense," even if assumed to derive from the agency's expertise, do not substitute for authority when the law requires authority.

Thus, the proper evidence of obviousness must show why there is a suggestion as to the reference so as to provide the subject matter of the claims and its benefits.

Accordingly, and in view of the foregoing, it is respectfully submitted that the Office Action's unsupported assertion that it would have been obvious to replace the sensors 120 (fig. 2) of "Hanson" with the sensors of "Lang" and to connect the sensor to the system bus of Bosch to provide diagnostic information of the vehicle subsystems to the wireless device 130 (fig. 2) does not provide sufficient motivation to support the combination. The only motivation to combine the references comes from the disclosure of the present application, which constitutes improper hindsight reasoning. Since there is no motivation or suggestion to combine the references, the references do not render the subject matter of the claims obvious, as explained herein.

In short, there is no evidence that the reference relied upon, whether taken alone or otherwise, would provide the features of the claims discussed above. It is therefore respectfully submitted that the claims are allowable for these reasons.

As further regards all of the obviousness rejections of the claims, it is respectfully submitted that not even a *prima facie* case has been made in the present case for obviousness, since the Office Actions to date never made any findings, such as, for example, regarding in any way whatsoever what a person having ordinary skill in the art would have been at the time the claimed subject matter of the present application was made. (See *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998) (the "factual predicates underlying" a *prima facie* "obviousness determination include the scope and content of the prior art, the differences between the prior art and the claimed invention, and the level of ordinary skill in the art")). It is respectfully submitted that the proper test for showing obviousness is what the "combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art", and that the Patent Office must provide particular findings in this regard -- the evidence for which does not include "broad conclusory statements standing alone". (See *In re Kotzab*, 55 U.S.P.Q. 2d 1313, 1317 (Fed. Cir. 2000) (citing *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1618 (Fed. Cir. 1999) (obviousness rejections reversed where no findings were made "concerning the identification of the relevant art", the "level of ordinary skill in the art" or "the nature of the problem to be solved"))). It is respectfully submitted that there has been no such showings by the Office Actions to date or by the Advisory Action.

In fact, the present lack of any of the required factual findings forces both Appellants and this Board to resort to unwarranted speculation to ascertain exactly what facts underly the present obviousness rejections. The law mandates that the allocation of the proof burdens requires that the Patent Office provide the factual basis for rejecting a patent application

under 35 U.S.C. § 103. (See *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984) (citing *In re Warner*, 379 F.2d 1011, 1016, 154 U.S.P.Q. 173, 177 (C.C.P.A. 1967))). In short, the Examiner bears the initial burden of presenting a proper prima facie unpatentability case -- which has not been met in the present case. (See *In re Oetiker*, 977 F.2d 1443, 1445, 24, U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992)).

In short, all of claims 20 to 26 and 29 to 39 are allowable.

CONCLUSION

In view of the above, it is respectfully requested that the rejections of claims 20 to 26 and 29 to 39 be reversed, and that these claims be allowed as presented.

Respectfully submitted,

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APPENDIX

1-19. (Withdrawn).

20. (Previously Presented) A system for monitoring at least one apparatus in a vehicle comprising:

at least one sensor situated in the vehicle for sensing at least one error code of the at least one apparatus, the at least one sensor being electrically coupled to a vehicle bus;

a gateway node situated in the vehicle, the gateway node being electrically coupled to the vehicle bus, the at least one sensor for communicating the at least one error code to the gateway node via the vehicle bus using a network protocol, the gateway node including a controller arrangement and a first wireless protocol arrangement, the first wireless protocol arrangement being coupled to the controller arrangement; and

a processor, the gateway node communicating the at least one error code to the processor via a second wireless protocol arrangement that communicates with the first wireless protocol arrangement, using a wireless communication protocol;

wherein the at least one error code concerns diagnostics information and is accessible from the vehicle bus.

21. (Previously Presented) The system of claim 20, wherein the wireless communication protocol includes a Bluetooth protocol, the first wireless protocol arrangement includes a first Bluetooth hardware arrangement, and the second wireless protocol arrangement includes a second Bluetooth hardware arrangement.

22. (Previously Presented) The system of claim 21, wherein the network protocol includes a Controller Area Network protocol.

23. (Previously Presented) The system of claim 22, wherein the gateway node includes a Controller Area Network/Bluetooth gateway node.

24. (Previously Presented) The system of claim 20, wherein the at least one sensor interrogates the at least one apparatus for the at least one error code when a request is received from a user.

25. (Previously Presented) The system of claim 20, wherein the at least one apparatus is at least one of a brake system, an engine system, an electrical system, and an auxiliary system.

26. (Previously Presented) The system of claim 20, further comprising:

a cellphone communicator electrically coupled to the processor; and

a remote application for communicating with the cellphone communicator via a cellphone base station;

wherein the remote application is for receiving the at least one error code.

27. (Canceled).

28. (Canceled).

29. (Previously Presented) The system of claim 20, wherein the processor compares the at least one error code to a look-up table to determine a status code.

30. (Previously Presented) The system of claim 29, wherein the status code is communicated to a user.

31. (Previously Presented) The system of claim 30, wherein the status code is communicated to a user by at least one of a visual display unit and an audible signal.

32. (Previously Presented) The system of claim 20, wherein the processor is in a hand-held computer to enable a user to display and analyze vehicle diagnostics on the handheld computer.

33. (Previously Presented) A method for monitoring at least one apparatus in a vehicle, the method comprising:

sensing, with at least one sensor situated in the vehicle, at least one error code of the at least one apparatus, wherein the at least one sensor is electrically coupled to a vehicle bus that is also electrically coupled to a gateway node situated in the vehicle,

communicating, with the at least one sensor, the at least one error code to the gateway node via the vehicle bus using a network protocol, wherein the gateway node includes a controller arrangement and a first wireless protocol arrangement, and the first wireless protocol arrangement is coupled to the controller arrangement; and

communicating, from the gateway node to a processor, the at least one error code to the processor via a second wireless protocol arrangement that communicates

with the first wireless protocol arrangement, using a wireless communication protocol;

wherein the at least one error code includes diagnostics information and is accessible from the vehicle bus.

34. (Previously Presented) The method of claim 33, further comprising:

comparing by the processor the at least one error code to a look-up table to determine a status code.

35. (Previously Presented) The method of claim 34, further comprising:

communicating the status code to a user.

36. (Previously Presented) The method of claim 35, further comprising:

communicating the status code to a user by at least one of a visual display unit and an audible signal.

37. (Previously Presented) The method of claim 36, further comprising:

interrogating by the at least one sensor the at least one apparatus for the at least one error code when a request is received from the user.

38. (Previously Presented) The method of claim 33, wherein the wireless communication protocol includes a Bluetooth protocol, the first wireless protocol arrangement includes a first Bluetooth hardware arrangement, and the second wireless protocol arrangement includes a second Bluetooth hardware arrangement.

39. (Previously Presented) The method of claim 38, wherein the network protocol includes a Controller Area Network protocol.